



Colorado Water Quality Control Commission  
Colorado Dept. of Public Health and Environment  
4300 Cherry Creek Dr. South  
Denver, CO 80246-1530

Oct. 1, 2009

RE: Issues Scoping Hearing for the San Juan and Gunnison Basins

Dear Commissioners:

The Animas River Stakeholders Group (ARSG) has worked for fifteen years to improve the water quality and stream habitat in the Animas River watershed by reducing metal loading from abandoned and inactive mines. We have appeared before the Commission on numerous occasions and plan to participate in the June 2011 Rulemaking Hearing for Regulation No. 34 for the San Juan River and Dolores River Basins. We felt that the Issues Scoping Hearing would be a good opportunity to briefly summarize the work that has been accomplished in the Upper Animas River Basin and describe the changes that have occurred since the last rulemaking hearing.

ARSG was formed in 1994 at the urging of the Water Quality Control Division (WQCD) and in response to a potential CERCLA designation by U.S. EPA of most of the Upper Animas River watershed. The group consists of federal, state, and local governmental agencies, mining interests, environmental interests and local citizens. The main motivating factor for the group's formation was a desire to have a high level of local control over efforts to improve water quality in the basin and to insure that resources were used "on the ground" as opposed to paying consulting and legal fees.

The group has a coordinator, but no other formal structure (although it utilizes the San Juan Research, Conservation, and Development Council as a non-profit entity to process grants and other funding). Anyone who wishes to participate is considered a stakeholder, and the group works by informal consensus.

### **Summary of Development of Current Water Quality Standards**

In 1994, the Commission held a hearing in Silverton and was divided on what the appropriate water quality standards should be in the upper basin. The Commission took a hybrid approach where it adopted WQCD's proposed standards with a three year delayed implementation date to allow stakeholders to demonstrate that they could further characterize sources of metal loading and find ways to improve water quality. At the next hearing in 1997, the Commission

recognized that progress was being made in improving water quality and extended the delayed implementation date three more years specifically charging “the Animas River Stakeholders Group with the responsibility to determine the feasibility of specific clean-up projects, the quantification of achievable improvements and to identify, prioritize and acquire funding for remediation projects.”

In 2001, ARSG presented the Commission with an extensive Use Attainability Analysis (UAA) demonstrating the feasibility of cleanup of specific sites, estimating how much metal loading could be reduced by remediation at certain sites, and recommending changes in segmentations, use classifications and standards. Many of the standards were site specific, based upon the potential for metal reductions over the next 20 years at 34 draining mines and 32 mine waste sites. The Commission adopted those recommendations. In 2005, after hearing testimony related to accomplishment of considerable remediation, the Commission made no substantial changes to the use classifications and standards adopted in 2001.

After the 2001 hearing WQCD developed 27 TMDL’s based upon the UAA and the standards adopted. To our knowledge, this is the first watershed in the nation, and perhaps still the only watershed, to have TMDL’s based upon remediation of inactive and abandoned mines sites.

## **Remediation Efforts**

Approximately 50 mining remediation projects have been completed in the basin over the past fifteen years. (See attached table.) About half of those projects were conducted by mining companies that had some existing liabilities, another quarter were done by U.S. Forest Service and Bureau of Land Management, and the remaining quarter were sponsored by ARSG. A number of projects done by Sunnyside Gold Corporation were finished before the UAA and those sites were not included as sites needing remediation.

Remediation efforts have been driven by an extensive characterization process where some 200 mine sites have been prioritized for feasibility of metal loading reductions. This work was significantly supported by scientific studies done through the Department of Interior’s Abandoned Mined Land Initiative. The Animas Basin was selected as one of two initial pilot sites in the nation for this ten year effort from the mid-1990’s to a few years ago.

The sites selected for remediation in the UAA represented 90% of the mining-related metal loading sources. So far, remediation has been completed on 28 of the 32 mine waste sites and some remediation has been done on 5 of the 34 draining mines. Unfortunately, most of the mine-related metal loading in the basin emanates from the draining mines as opposed to the mine waste, and ARSG has been severely hamstrung by the lack of a Good Samaritan provision in the Clean Water Act to reduce liability for third-party cleanups. In an effort to move forward, ARSG has written a pilot project Good Samaritan provision to apply to the Animas River Basin and had it introduced twice in Congress (once by Rep. McInnis and once by Rep. Salazar).

The Upper Animas Basin is divided into three main sub-basins which converge in Silverton; Mineral Creek, Cement Creek, and the Animas River above Silverton. Since remediation efforts

began, water quality in Mineral Creek has improved; it has remained fairly stable in the Animas River above Silverton with the exception of manganese; and it has declined in Cement Creek because of new mine discharges as explained below. In addition, water quality has slightly declined in the Animas River below the confluences of these three sub-basins.

### **Impacts of Actions Conducted under the Sunnyside Consent Decree**

In 1991, Sunnyside Gold Corporation (SGC) shut down by far the largest and the last operating mine in the Animas River Basin. The company was still obligated to treat approximately 1,600 gallons per minute (gpm) of acid mine drainage from its main portal, the American Tunnel, in perpetuity. Simply operating this system cost hundreds of thousands of dollars per year.

To mitigate this liability, SGC entered into a consent decree with the Water Quality Control Division in 1996 which eventually freed SGC from its water treatment obligation. SGC installed three massive bulkheads in the American Tunnel and some other bulkheads in other locations within the workings. The bulkheads backup water within the mine to an elevation approximately 1,000 vertical feet above the portal. To offset additional metal loading from seeps and springs that might occur with the flooding of the workings, SGC completed around twenty remediation projects in the basin, including some on lands they didn't own while continually monitoring zinc concentrations at a compliance point in the Animas River below Silverton. Once the projects were completed, the elevation of water in the mine stabilized, and SGC demonstrated over several years that zinc concentrations in the Animas River were being maintained, SGC was no longer obligated to treat water from the American Tunnel. All conditions were thought to be satisfied and the decree was terminated in 2005. It is important to note that the decree was designed to maintain zinc concentrations in the Animas River at the compliance point after all conditions were met; not improve them.

Before the decree was terminated the Mogul mine began discharging increased flows. About the time the decree was terminated, the portal at the 7<sup>th</sup> level of the Gold King mine, which had been dry, started to discharge acid mine drainage. The Gold King and Mogul mines are situated near the Sunnyside, and they both mined the same geologic structure. Shortly after the Gold King started to discharge, the Red & Bonita, a nearby collapsed adit which lies near and below the Gold King mine also began discharging.

Today, discharges from the Gold King and Red & Bonita mines have been measured as high as 300 gpm. In addition, some other mines in vicinity are now starting to discharge, or their discharges have increased. Overall, there is 600-700 gpm of untreated, highly concentrated acid mine drainage in the Cement Creek sub-basin that was not considered in the 2001 UAA when the current underlying standards were developed. Metal loading from the Gold King and Red & Bonita are much larger than from any other mine in the Upper Animas River Basin and appear to have more than offset gains in the basin made by all the different remediation projects.

## **Current Direction of ARSG**

ARSG continues to work towards improving water quality in the Animas River Basin. Its efforts have been nationally recognized through a Regional Partnership of the Year Award in 2007 from the U.S. Forest Service, Rocky Mountain Region and a Cooperative Conservation Award from the Secretary of Interior in 2008. We have two projects planned for next year in the Mineral Creek sub-basin; a mine waste cleanup and a grouting project in a mine that already has a bulkhead. We are still engaged in promotion and discussion of Good Samaritan legislation. In addition, ARSG is exploring opportunities to address the new sources of metal loading in Cement Creek. Over the next year, we look forward to discussing some of these complex water quality issues with the Water Quality Control Division and other interested parties in preparation for the 2011 Rulemaking Hearing, particularly in regard to metal standards changes that might occur during the Basic Standards Rulemaking in 2010.

Respectfully submitted,

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